

Aero Design Ltd.

Work Order Control Sheet

Work Order#: 2017-181 Date Opened: 03 November 2017 Title: Fabrication

Aircraft OEM: Eurocopter Aircraft Model: AS350/355 Product Type: Cargo Basket Body Product Model: Medium Attach Hoops Quantity: 20 *5JC*
LONG Attach Hoops *15*

Work Order Contents

	Initial or N/A
Work Order/Build Sheets (Procedures Provided)	<i>JC</i>
Additional Work Sheets (Standard Practice)	N/A
Drawings (See List Below)	<i>JC</i>
Parts Distribution Sheet	<i>JC</i>
Sub Component Tags	N/A
Completed Certification (Original)	N/A
Time Sheet (R&D)	N/A
Notes	N/A

Build Sheet Contents

Tasks Initialled	<i>JC</i>
Dual Inspections Initialled	<i>N/A</i>

Drawing List

Drawing #	Rev #	Description	Initial or N/A
76423	3	Attach hoop	<i>JC</i>
<i>84262</i>	<i>2</i>	<i>HANDLE PROV</i>	<i>JC</i>

Traveller

Component Completion

	As Instructed
Quantity Complete on This Work Order	<i>5/15</i>
Quantity Incomplete on This Work Order	<i>N/A</i>
Further Processing Required Before Release	<i>N/A</i>
Release to Stock as Components	<i>N/A</i>

Certification

	Initial or N/A
Form One Completed	<i>N/A</i>
Serviceable (Green) Tag Completed	<i>N/A</i>
In Process (Yellow) Tag Completed	<i>N/A</i>
Unserviceable (Red) Tag Completed	<i>N/A</i>
Parts Tracking Tags (White) Completed	<i>N/A</i>
* Parts Placed in Stores for Distribution	<i>JC</i>

Additional Documentation

	Initial or N/A
Documentation of a minor change	<i>N/A</i>
Non-Conformance Report Required	<i>N/A</i>
Service Difficulty Report Required	<i>N/A</i>

Billing

Local (Aero Design)	<i>JC</i>
Research and Development	<i>N/A</i>
Third Party	<i>N/A</i>

+ PARTS MARKED WITH WO # PER MANUAL

Work performed by:

Print: J. FRANCIS

ICC / Dual Inspection performed by:

Print: J. CLARKE *N/A JC*

Work Order closed by:

Print: J. CLARKE

Approved Manufacturing Facility 73-04

Sign: J. Clarke

Sign: J. Clarke

Sign: J. Clarke

Form 20.003

SCA: 4002

SCA: 4002

SCA: 4002

Date: 17 AUG 2018

Date: 17 AUG 2018 *N/A JC*

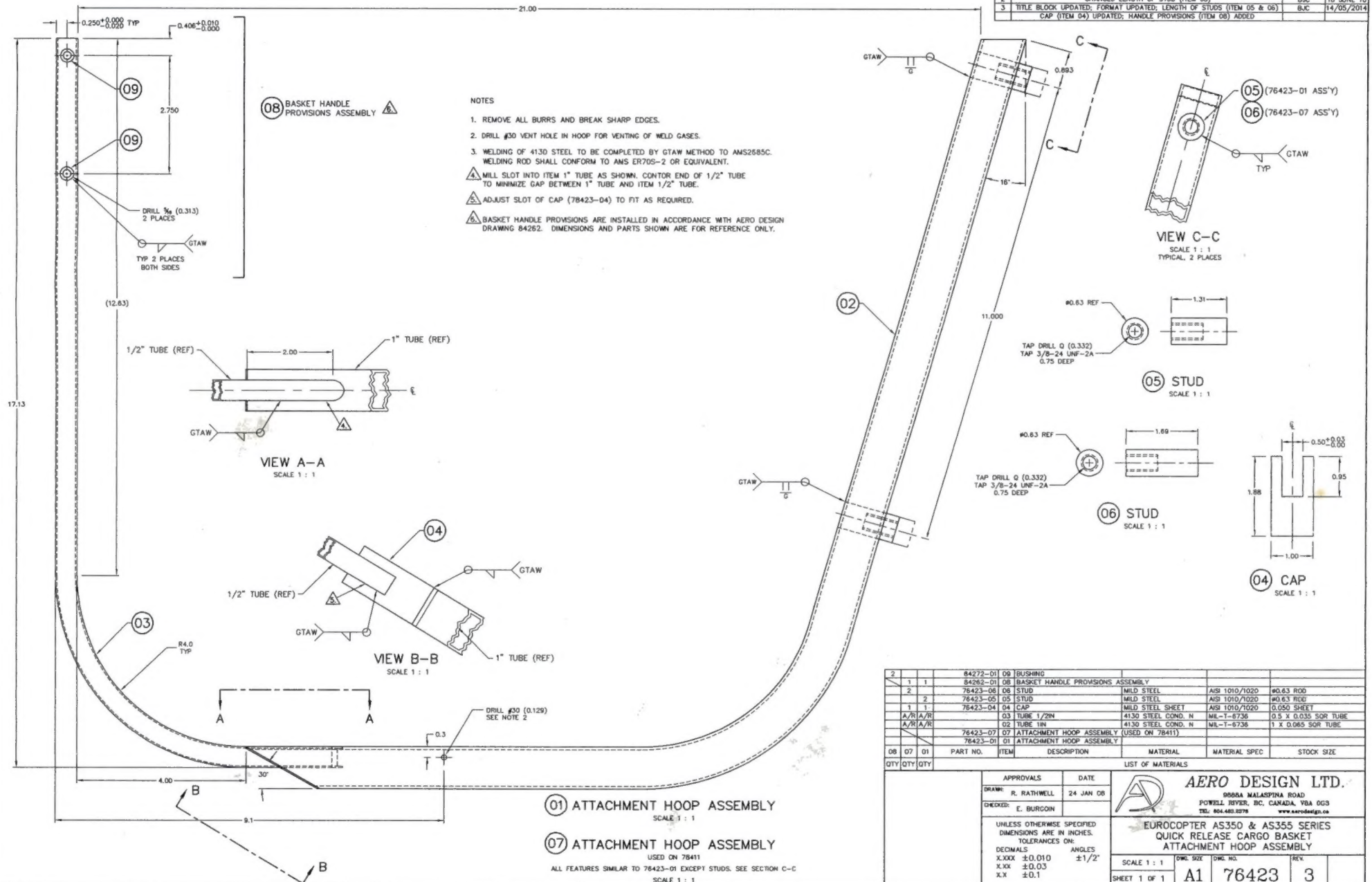
Date: 13 JUNE 2019

Rev. Original 23 Sep 2014

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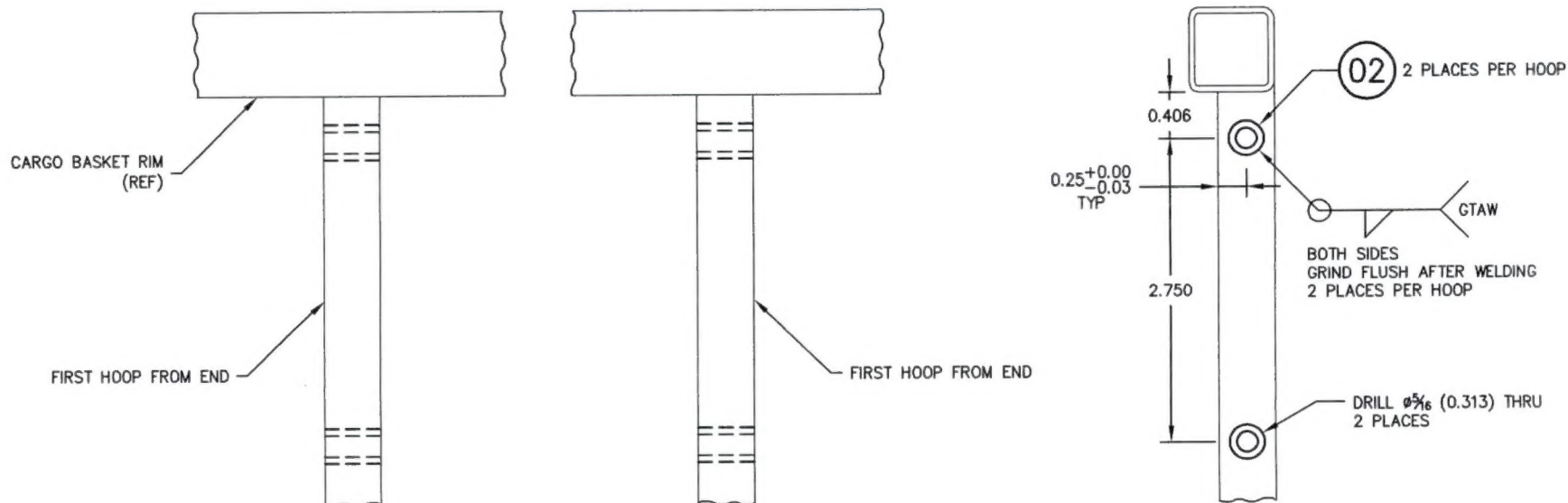
X 20

REV	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE	RR	24 JAN 08
1	ADDED 76423-07 ASSY AND 76423-06 PART	RR	05 MAR 09
2	CHANGED LENGTH OF STUD (ITEM 05)	BAC	16 JUNE 10
3	TITLE BLOCK UPDATED; FORMAT UPDATED; LENGTH OF STUDS (ITEM 05 & 06)	BAC	14/05/2014
	CAP (ITEM 04) UPDATED; HANDLE PROVISIONS (ITEM 08) ADDED		



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REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE - CREATED FROM 36262	BJC	03/11/2009
1	CHANGE LOCATION OF BUSHINGS	BJC	29/09/2011
2	UPDATED TITLE BLOCK, MOVE LID PROVISIONS TO 84263	BJC	14/02/2014



01 BASKET HANDLE PROVISIONS ASSEMBLY PROVISIONS TO BE INSTALLED IN HOOPS BEFORE ASSEMBLY TO BASKET RIM

NOTES:

1. REMOVE ALL BURRS AND SHARP EDGES.
2. WELDING TO BE COMPLETED BY GTAW METHOD TO AMS2685C USING ROD CONFORMING TO ER70S-2 OR EQUIVALENT.

4	84272-01	02	BUSHING
	84262-01	01	BASKET HANDLE PROV. ASSY
01	PART NO.	ITEM	DESCRIPTION
QTY	LIST OF MATERIALS		

APPROVALS	DATE
DRAWN: JEFF CLARKE	03 NOV 2009
CHECKED: E. BURGAIN	

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES ON:
DECIMALS ANGLES
X.XXX ±0.010 ±1/2°
X.XX ±0.03
X.X ±0.1



AERO DESIGN LTD.

8888A MALASPINA ROAD
POWELL RIVER, BC, CANADA, V8A 0G3
TEL: 804.483.8378 www.aerodesign.ca

HELICOPTER CARGO BASKET
BASKET HANDLE PROVISIONS ASSEMBLY

SCALE 1 : 1	DWG. SIZE	DWG. NO.	REV.
SHEET 1 OF 1	A3	84262	2

CARGO BASKET HOOP FABRICATION - 76423

General

These instructions apply to cargo basket attachment hoop 76423-01 (medium AS350 basket) and 76423-07 (long AS350 basket). Refer to the following drawings, at the current revision, for dimensions and details:

76423, Revision 2 – Attachment Hoop

84262, Revision 1 – Handle Bracket Assembly

Notes

1. Always bend 1 hoop start to finish to ensure stops and stock length are correct.
2. Always pull with consistent speed through the bend, do not stop during the pull, and do not over-pull once the stop is reached.

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Date Open: 03 Nov. 2017

Complete
(initial or SCA #)

JF AD
73-04
02

1. ½ Hoop Fabrication – ½" hoop
 - a. Cut ½" x 0.035 material to 22.0", square ends.
 - b. Record material PO on attached material list.
 - c. De-burr cut ends using a sanding disc on a die-grinder or disc sander.
 - d. Remove writing on tubes with acetone and scotch bright.
 - e. On the hoop bending fixture, set the following stops:
 - i. Upper tube stop: ??"
 - ii. Lower bend stop: 12mm
 - f. Slide stock tube through bending die up to upper stop. Rotate bending arm clockwise until tube is secure, ready to bend. Ensure tube remains tight to upper stop.
 - g. Slide shim all the way forward on bender to secure tube in die
 - h. Pull bending arm clockwise until stop is reached. Pull slowly with consistent pressure.
 - i. Check tube bend for square using a hoop jig or carpenters square. Adjust stops if required.
 - j. Check for:
 - i. hoop height: 17 1/8" (Outside to outside)
 - ii. adjust upper stop for height if required
2. ½ Hoop Machining – ½" hoop – Handle Provisions (84262-01)
 - a. Start with ½" half hoop from step 1.
 - b. Setup manual milling machine with specific hoop vise jaw. Set XY 0 on far, right edge of jaw (end of hoop).
 - c. Drill 2 places, 5/16" (0.313) holes using 5/16" (#4) centre drill through both sides in accordance with drawing. Run at 500 RPM. Apply a few drops of Rapid-Tap cutting oil to each location before drilling.
 - i. locate 0.23" from edge (within tolerance specified on drawing).
 - d. Wipe or blow off cutting oil and de-burr with scotch-brite disc on die-grinder.
 - e. Tag in process hoop(s) and place into stock.

20
73-04
02

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CARGO BASKET HOOP FABRICATION - 76423

Complete
(initial or SCA #)

3. 1/2 Hoop Fabrication - 1" hoop

$41 \frac{5}{8} = 29 \frac{5}{8} \frac{1}{2}$

- Cut 1" x 0.065 material to 28.0", one end square, one end @ 16 degrees.
- Record material PO on attached material list.
- De-burr cut ends using a sanding disc on a die-grinder or disc sander.
- Remove writing on tubes with acetone and scotch bright.
- On the hoop bending fixture, set the following stops:
 - Upper tube stop: ??
 - Lower bend stop: ??
- Slide stock tube through bending die up to upper stop. Rotate bending arm clockwise until tube is secure, ready to bend. Ensure tube remains tight to upper stop.
- Slide shim all the way forward on bender to secure tube in die
- Using a long snipe tube, pull bending arm clockwise until stop is reached. Pull slowly with consistent pressure.
- Check tube bend for angle using hoop jig. Adjust stops if required.
- Check for:
 - hoop height from jig
 - adjust upper stop for height if required
 - length to allow 60 degree cut.
- Using hoop jig, mark for 60 degree cut on bottom end. Cut to length.
- De-burr cut end using a sanding disc on a die-grinder or disc sander.

bend at $13 \frac{3}{16}$ " from long end of 16° cut

4. 1/2 Hoop Machining - 1" hoop

- Start with 1" 1/2 hoop as stock.
- Setup manual milling machine with standard steel vise jaws. Insert hoop into vise flat on bottom of vise, 16 degree side on right. Set XY 0 on far, right edge of hoop (end of hoop). Shift X along hoop 0.893" and set X 0. Shift Y -0.5". Set stop against end of tube.
- Drill two places, 5/8" (0.625) holes using 5/8" (#7) centre drill through both sides in accordance with drawing. Apply a few drops of Rapid-Tap cutting oil to each location before drilling.
- Wipe or blow off cutting oil and de-burr with scotch-brite disc on die-grinder.
- Set tube in vise with 60 degree end on right.
- Using 1/2" coated carbide end mill, mill slot 2.25" deep (edge to edge, 2.0 edge to centre). Apply a bead of Rapid-Tap cutting oil along cut line before milling.
- Wipe or blow off cutting oil and de-burr with scotch-brite disc on die-grinder.
- Tag in process hoop(s) and place into stock.

5. Joint Preparation

- Set 1" hoop in hoop jig. Insert 1/2" hoop into 1" hoop, against side stop of jig. Mark slot location in 1" hoop onto 1/2" hoop. Trim 1/2" hoop with vertical bandsaw if required, and shape to match slot with disc sander.

6. Welding - Lugs

- Insert two 76423-05 lugs (medium basket) or 76423-06 lugs (long basket) into holes in 1" hoop. Seat flush with inboard face of tube using a C-clamp or vise. Attach 11" spacing jig with 3/8-24 bolts to lugs.
- TIG weld all around both sides of lugs. 2 places.
- Record lug and welding rod PO/WO on attached material list.

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CARGO BASKET HOOP FABRICATION - 76423

Complete
(initial or SCA #)

AD WG

73-04

05

AD

73-04

05 WG

7. Welding – Handle Bushings – 84262-01

- Insert 84271-01 bushings into ½" hoop prepared in step 2. above.
- TIG weld bushing both sides, 2 bushings per hoop.
- Record bushing and welding rod PO/WO on attached material list.

8. Welding – Hoop Assembly

- Insert 1" hoop from step 6 and ½" hoop from step 7 into hoop jig. Seat ½" hoop into slot in 1" hoop.
- Tack weld hoops together, minimum 4 places, to hold hoop together to complete welds out of jig.
- TIG weld around ½" hoop in slot.
- Cap ½" – 1" tube joint with 76423-04 cap. TIG weld around cap.
- Record cap and welding rod PO/WO on attached material list.

AD
73-04
02

9. Finishing and Inspection

- Run 3/8-24 tap through welded lugs.
- Grind inside surfaces flush at lugs and slot in 1" tube.
- Inspect hoop for conformity to drawing.
- Tag complete and inspected hoop(s) and place into stock.

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Material Tracking Sheet
Eurocopter AS350 / AS355
Med Hoop Fabrication

1 of 2

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
Step 1	<u>N/A</u>	<u>JC</u>	76421-01	Hoop - standard	4130 Steel, 1/2" x 0.035 Sqr. Tube	
Step 1	<u>N/A</u>	<u>JC</u>	76421-01	Hoop - with handle provisions	4130 Steel, 1/2" x 0.035 Sqr. Tube	
Step 2				<i>Welding</i>		
	. 2	84262	84272-01	Bushing	4130 Steel, 5/16" x 0.058 Rnd. Tube	16078 <u>N/A</u> <i>X.</i>
	. A/R		--	Welding Rod	ER70S-2	16078 <u>N/A</u> <i>X.</i>
Step 3				<i>Inspection</i>	None	
	<u>N/A</u>	<u>JF</u>	76422-01	Hoop - attachment (forward)		
Step 1				<i>Fabrication</i>		
	. 1		76421-01	1/2" Tube - hoop	4130 Steel, 1/2" x 0.035 Sqr. Tube	
Step 2				<i>Welding</i>		
	. 2		69823-02	Lug	1018 Steel, 5/8" Rod	
	. A/R		--	Welding Rod	ER70S-2	
Step 3				<i>Finishing and Inspection</i>	None	

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Eurocopter AS350 / AS355
MED Hoop Fabrication

2 of 2

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
	<u>5</u>		76423-01	Hoop - attachment (aft)		
Step 1				1/2 Hoop Fabrication - 1/2" hoop		
	. 1		--	1/2" Tube - hoop	4130 Steel, 1/2" x 0.035 Sqr. Tube	<u>1708217093</u>
Step 2				Machining	None	
Step 3				1/2 Hoop Fabrication - 1" hoop		
	. 1		--	1" tube - hoop	4130 Steel, 1" x 0.065 Sqr. Tube	<u>17082</u>
Step 4				Machining	None	
Step 5				Joint Preparation	None	
				Welding		
Step 6	. 2		76423-05	Stud	1018 Mild Steel, 5/8" Dia.	<u>17106</u>
Step 7	. 2	84262	84272-01	Bushing	4130 Steel, 5/16" x 0.058 Rnd. Tube	<u>16070</u>
Step 8	. 1		76423-04	Cap	1018 Mild Steel, 0.050" Sheet	<u>15035</u>
	. A/R		--	Welding Rod	ER70S-2	<u>16078</u>
Step 9				Finishing and Inspection	None	

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Material Tracking Sheet
Eurocopter AS350 / AS355
Long Basket Hoops

1 of 1

Date Opened: 03 Nov 2017

Ass'y Step	Qty	Detail Drawing	Part Number	Description	Material	PO/WO
Step 1	N/A		76421-01	Hoop - standard	4130 Steel, 1/2" x 0.035 Sqr. Tube	
	15		76423-07	Hoop - attachment		
Step 1				1/2 Hoop Fabrication - 1/2" hoop		
	.1		--	1/2" Tube - hoop	4130 Steel, 1/2" x 0.035 Sqr. Tube	17093
Step 2				Machining	None	
Step 3				1/2 Hoop Fabrication - 1" hoop		
	.1		--	1" tube - hoop	4130 Steel, 1" x 0.065 Sqr. Tube	17082
Step 4				Machining	None	
Step 5				Joint Preparation	None	
				Welding		
Step 6	.2		76423-06	Stud	1018 Mild Steel, 5/8" Dia.	17106
Step 7	.2	84262	84272-01	Bushing	4130 Steel, 5/16" x 0.058 Rnd. Tube	0817106 16070
Step 8	.1		76423-04	Cap	1018 Mild Steel, 0.050" Sheet	15035
	A/R		--	Welding Rod	ER70S-2	16078
Step 9				Finishing and Inspection	None	



Type: AS350 Hoops

Work Order: 2017-181

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